General and Comparative Endocrinology

An International Journal

Editors-in-Chief
AUBREY GORBMAN
IAN W. HENDERSON

Published under the Auspices of the Division of Comparative Endocrinology of the American Society of Zoologists, and the European Society for Comparative Endocrinology

Volume 82
1991

ACADEMIC PRESS, INC.
San Diego New York Boston
London Sydney Tokyo Toronto

Copyright © 1991 by Academic Press, Inc.
All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1991 articles are as shown on the article title pages; if no fee code appears on the title page, the fee code is the same as for current articles.

0016-6480/91 $1.50

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.

Contents of Volume 82

Number 1, April 1991

Stephen C. Brown, Patricia Stocking Brown, Kazutoshi Yamamoto, Kouhei Matsuda, and Sakae Kikuyama. Amphibian Prolactins: Activity in the Eft Skin Transepithelial Potential Bioassay 1

Vera Lucia A. Machado, Guillermo F. Wassermann, and Maria Marques. *In Vitro* Effect of Insulin on the Uptake of Glucose and α-Aminoisobutyric Acid in the Thyroid Gland of the Turtle (*Chrysemys dorbigni*) 8

Tetsuya Kobayashi and Sakae Kikuyama. Homologous Radioimmunoassay for Bullfrog Growth Hormone 14

J. Michael Conlon, P. C. Andrews, Lars Thim, and Thomas W. Moon. The Primary Structure of Glucagon-like Peptide, but Not Insulin Has Been Conserved between the American Eel, *Anguilla rostrata* and the European Eel, *Anguilla anguilla* 23

Takashi Yada, Kazutaka Takahashi, and Tetsuya Hirano. Seasonal Changes in Seawater Adaptability and Plasma Levels of Prolactin and Growth Hormone in Landlocked Sockeye Salmon (*Oncorhynchus nerka*) and Amago Salmon (*O. rhodurus*) 33

Ian Robbins, Frédéric Lenoir, and Michel Mathieu. Neuroendocrine Factors Affecting the Glycogen Metabolism of Purified *Mytilus edulis* Glycogen Cells: Partial Characterization of the Putative Glycogen Mobilization Hormone—Demonstration of a Factor That Stimulates Glycogen Synthesis . . . 45

James D. Rieman and F. M. Anne McNabb. Assay Validation and Characterization of Hepatic 5′-Deiodinase Activity in Ring Doves Using Reverse-T_3 as Substrate 53

A. K. Dasmahapatra, Srabani De, and A. K. Medda. Demonstration of Putative Thyroid Hormone Receptor in the Brain Nuclei of Singi Fish, *Heteropneustes fossilis* (Bloch) 60

Roger C. Cochran and Harry J. Grier. Regulation of Sexual Succession in the Protogynous Black Sea Bass, *Centropristis striatus* (Osteichthyes: Serranidae) 69

M. S. Boulakoud and A. R. Goldsmith. Thyroxine Treatment Induces Changes in Hypothalamic Gonadotrophin-Releasing Hormone Characteristic of Photorefractoriness in Starlings (*Sturnus vulgaris*) 78

I. Mayer, B. Borg, I. Berglund, and J. G. D. Lambert. Effects of Castration and Androgen Treatment on Aromatase Activity in the Brain of Mature Male Atlantic Salmon (*Salmo salar* L.) Parr 86

Richard Cheung, Leonor C. G. Ferreira, and John H. Youson. Distribution of Two Forms of Somatostatin and Peptides Belonging to the Pancreatic Polypeptide Family in Tissues of Larval Lampreys, *Petromyzon marinus* L.: An Immunohistochemical Study 93

Gustavo M. Somoza and Richard E. Peter. Effects of Serotonin on Gonadotropin and Growth Hormone Release from *in Vitro* Perifused Goldfish Pituitary Fragments 103

A. R. Foster, D. F. Houlihan, C. Gray, F. Medale, B. Fauconneau, S. J. Kaushik, and P. Y. Le Bail. The Effects of Ovine Growth Hormone on Protein Turnover in Rainbow Trout 111

Louis J. Guillette, Jr., Karen A. Bjorndal, Alan B. Bolten, Timothy S. Gross, Brent D. Palmer, Blair E. Witherington, and John M. Matter. Plasma Estradiol-17β, Progesterone, Prostaglandin F, and Prostaglandin E_2 Concentrations during Natural Oviposition in the Loggerhead Turtle (*Caretta caretta*) 121

L. Brighenti, A. C. Puviani, M. E. Gavioli, E. Fabbri, and C. Ottolenghi. Interaction of Salmon Glucagon, Glucagon-like Peptide, and Epinephrine in the Stimulation of Phosphorylase *a* Activity in Fish Isolated Hepatocytes . . . 131

B. Fergusson and S. D. Bradshaw. Plasma Arginine Vasotocin, Progesterone, and Luteal Development during Pregnancy in the Viviparous Lizard *Tiliqua rugosa* 140

David A. Lovejoy, Nancy M. Sherwood, Wolfgang H. Fischer, Brent C. Jackson, Jean E. Rivier, and Terry Lee. Primary Structure of Gonadotropin-Releasing Hormone from the Brain of a Holocephalan (Ratfish: *Hydrolagus colliei*) 152

Number 2, May 1991

Michal Gadot, Ann-Shyn Chiang, Edina L. Burns, and Coby Schal. Cyclic Juvenile Hormone Biosynthesis in the Cockroach, *Blattella germanica:* Effects of Ovariectomy and Corpus Allatum Denervation 163

Lynn M. Riddiford and Michael Ashburner. Effects of Juvenile Hormone Mimics on Larval Development and Metamorphosis of *Drosophila melanogaster* 172

Tatsuya Sakamoto, Munehico Iwata, and Tetsuya Hirano. Kinetic Studies of Growth Hormone and Prolactin during Adaptation of Coho Salmon, *Oncorhynchus kisutch,* to Different Salinities 184

Carmen D. Eilertson, Pamela K. O'Connor, and Mark A. Sheridan. Somatostatin-14 and Somatostatin-25 Stimulate Glycogenolysis in Rainbow Trout, *Oncorhynchus mykiss,* Liver Incubated *in Vitro:* A Systemic Role for Somatostatins 192

Rüdiger Schulz and Volker Blüm. Extragonadal 17β-Hydroxysteroid Dehydrogenase Activity in Rainbow Trout 197

E. H. Lim, J. L. Ding, and T. J. Lam. Estradiol-Induced Vitellogenin Gene Expression in a Teleost Fish, *Oreochromis aureus* 206

Abstracts

Abstracts of Papers Presented at the Fifteenth Conference of European Endocrinologists 215

Book Reviews

The Thyroid Gland. Edited by M. A. Greer. 329

Hormones: From Molecules to Disease. Edited by E. E. Baulieu and P. A. Kelly 329

Number 3, June 1991

A. Gobbetti, M. Zerani, G. F. Bolelli, and V. Botte. Seasonal Changes in Plasma Prostaglandin $F_{2\alpha}$ and Sex Hormones in the Male Water Frog, *Rana esculenta* 331

M. Zerani, C. Vellano, F. Amabili, O. Carnevali, G. E. Andreoletti, and A. Polzonetti-Magni. Sex Steroid Profile and Plasma Vitellogenin during the Annual Reproductive Cycle of the Crested Newt (*Triturus carnifex* Laur.) 337
Atanu Kumar Pati and Shobha Gupta. Circadian Time Dependence of Erythropoietic and Respiratory Responses of Indian Garden Lizard, *Calotes versicolor,* to Mammalian Urinary Erythropoietin and Thyroxine 345
Kenneth A. Iczkowski and Frank Hertelendy. Participation of the Cytoskeleton in Avian Granulosa Cell Steroidogenesis 355
Michael J. Sommer and Linda H. Mantel. Effects of Dopamine and Acclimation to Reduced Salinity on the Concentration of Cyclic AMP in the Gills of the Green Crab, *Carcinus maenas* (L) 364
Evelyn Grace de Jesus, Tetsuya Hirano, and Yasuo Inui. Changes in Cortisol and Thyroid Hormone Concentrations during Early Development and Metamorphosis in the Japanese Flounder, *Paralichthys olivaceus* 369
W. E. Meyer and J. R. Millam. Plasma Melatonin Levels in Japanese Quail Exposed to Dim Light Are Determined by Subjective Interpretation of Day and Night, Not Light Intensity 377
Ellen Marie Dotson, Jean-Louis Connat, and Peter Allan Diehl. Cuticle Deposition and Ecdysteroid Titers during Embryonic and Larval Development of the Argasid Tick *Ornithodoros moubata* (Murray, 1877, *sensu* Walton, 1962) (Ixodoidea; Argasidae) 386
N. Byamungu, K. Mol, and E. R. Kühn. Somatostatin Increases Plasma T_3 Concentrations in *Tilapia nilotica* in the Presence of Increased Plasma T_4 Levels 401
S. D. Bradshaw, H. Saint Girons, and F. J. Bradshaw. Patterns of Breeding in Two Species of Agamid Lizards in the Arid Subtropical Pilbara Region of Western Australia 407
Felipe Vilchis, Bertha Chávez, and Gregorio Pérez-Palacios. Steroid Hormone Binding in the Harderian Gland of Birds: Characteristics of the Androgen, Estrogen, and Progestin Receptors of *Anas platyrhynchos* and *Gallus domesticus* 425
Hiroaki Hayashi, Keiko Imai, and Katsutoshi Imai. Characterization of Chicken ACTH and α-MSH: The Primary Sequence of Chicken ACTH Is More Similar to *Xenopus* ACTH than to Other Avian ACTH 434
Qichang Li, B. Alston-Mills, and M. A. Ottinger. Avian LHRH during Embryonic Development: Measurement by Competitive ELISA with a Monoclonal Antibody 444
Beverly A. Himick, David A. Higgs, and J. G. Eales. The Acute Effects of Alteration in the Dietary Concentrations of Carbohydrate, Protein, and Lipid on Plasma T_4, T_3, and Glucose Levels in Rainbow Trout, *Oncorhynchus mykiss* 451
James C. Fenwick and J. Gilles Brasseur. Effects of Stanniectomy and Experimental Hypercalcemia on Plasma Calcium Levels and Calcium Influx in American Eels, *Anguilla rostrata,* LeSueur 459
Joaquim Gutiérrez and Erika M. Plisetskaya. Insulin Binding to Liver Plasma Membranes of Coho Salmon during Smoltification 466
M. M. Vijayan, J. S. Ballantyne, and J. F. Leatherland. Cortisol-Induced Changes in Some Aspects of the Intermediary Metabolism of *Salvelinus fontinalis* 476

JAMES E. WOODS, MARIANNE DAMIANIDES-KEENAN, AND ROBERT C. THOMMES.
FSH- and TSH-Binding Cells in the Ovary of the Developing Chick Embryo 487
ANNOUNCEMENT 495
AUTHOR INDEX FOR VOLUME 82 496

NOTICE

The Subject Index for Volume 82 will appear in the December 1991 issue as part of a cumulative index for the year 1991.